

VACS Cost Share Training PY17 Engineering Updates

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Engineering Updates

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Engineering Job Approval Authority (EJAA)

- Definition added to glossary (page IX-2):

Application: The Virginia BMP Incentives Programs Contract (Part I – Application for Program) as generated by the VA BMP Tracking Program. When completed and signed will be considered an application to participate in the Ag. BPM cost share program.

CDIC: Conservation District Coordinator – DCR regional staff that provide support and assistance to the Conservation Districts.

Component Cost: Cost of materials or services associated with the installation of BMPs such as fertilizer, lime, seed, obstruction removal and nitrate or soil testing.

Conservation Plan: Any plan that addresses the water quality problems of the field or site being planned. It must at least reduce erosion to a level of soil loss tolerance equal to T. Plans for individual fields are acceptable, as are those for tracts and entire farms. Examples would include plans written by qualified conservation professionals to comply with the Chesapeake Bay Preservation Act and the 1985, 1990, 2000 and 2008 Flood Security Acts. This definition is not intended to establish a new planning standard but to encourage the use and implementation of those already being employed.

Conservation Efficiency Factor (CEF): The CEF factor is calculated by the BMP tracking program to serve as a ranking tool and provide some guidance for ranking applications that would implement different BMPs. This tool is designed to assist SWCDs with the ranking of their cost share practice applications. The CEF uses eleven different components, including soil loss data that is inputted by the SWCD, as well as the environmental information associated with the location of the practice on the earth to generate a factor used to rank the proposed practice compared with other like BMPs as well as different BMPs.

County Code: The Federal Information Processing Standards (FIPS) code; see list beginning on page II-44

Distance to Stream and Relief to Stream: A USGS topographic quad sheet or a Geographic Information Systems (GIS) computer program such as is available within the BMP Tracking program should be used to make these measurements. A measurement is taken between the highest point where the practice is applied and the top of the bank of the nearest solid or dotted blue line stream or man-made drainage channel (acting as an intermittent stream). The distance should be measured along the path of flow between these two end points in feet. Sinkholes, being a geological barrier to flow and potential source of groundwater contamination, can be substituted as the delivery point rather than a blue line stream.

District: A Virginia Soil and Water Conservation District

Engineering Job Approval Authority (EJAA): DCR Engineering Job Approval Authority (EJAA) is the authority to design, inspect, or certify various BMP Practices. Level of EJAA is granted by the DCR Agricultural BMP Engineer to individuals based on their training, experience and demonstrated competence. Until such time that DCR has a fully functioning EJAA program, any NRCS EJAA granted and current prior to October 1, 2013 will be recognized.

EJAA Narrative

- In both sections before charts
- Pay close attention to part in bold!

erosion control level is met as well as other specified program requirements. Resource Management Plans are required to meet "T", and may be used as conservation plans for the purposes of the VACS. Existing plans that do not meet the required criteria, must be revised to meet this minimum standard and be approved by the District Board.

Conservation Planning Module

DCR has developed a conservation planning module as part of the Ag. BMP Tracking Program. The module was developed with significant input from a stakeholders group that defined the desired functionality and capabilities. District conservation technicians will need to be certified to utilize the DCR conservation planning module. Training sessions will be presented both on line and in the classroom, all training sessions must be completed before conservation plans may be developed on the module.

Nutrient management plans are required as a prerequisite for animal waste practices and certain other identified agronomic practices (see the Virginia BMP Table 1 in the front of this manual) it identifies all practices that require NM plans. The plan must be consistent with requirements for nutrient management plan content and procedures as stipulated in the current Nutrient Management Training Certification Regulations. Consult the appropriate DCR specification for specific plan requirements. Nutrient management plans must be completed before a practice installation is certified and payment is made. With the exception of requests for animal waste practices (i.e. WP-4, 4B, 4C, 4E, & 4F), a conservation plan and an associated nutrient management plan is only required for the field or site to be treated with the collected manures or compost, however more comprehensive conservation planning is always encouraged. If an animal waste practice is requested, a conservation plan needs to address the erosion control, waste management, and the nutrient management for all of the acreage that will receive animal waste applications.

DCR Agricultural Engineering Program

This program provides engineering assistance to the 47 soil and water conservation districts across the Commonwealth. Engineering assistance includes; engineering support with designs, training of District staff, and the implementation of various quality control mechanisms. The most notable of these quality control mechanisms is the implementation of DCR's Engineering Job Approval Authority (EJAA) Program. See the glossary in this manual for a definition of EJAA.

DCR now has a Professional Engineer to serve as the State Engineer for agricultural BMP practices. With the addition of this professional staff, DCR developed a process to issue EJAA to District staff who have demonstrated competency in the design and construction of various agricultural best management practices per USDA-NRCS standards and specifications. **If a District staff person does not have DCR EJAA for any of the practice components being designed/installed as part of the VACS practice, they are not authorized by DCR to proceed to construction of said practice components. As a result, they should contact the DCR Agricultural Engineer/technician servicing their District for further instructions on what requirements will be needed to complete the practice.**

Various levels of EJAA will be delegated to an individual District employee for each practice component based on increasing levels of complexity. For example, EJAA may be issued to a given District staff person for a Livestock Pipeline based on a design that utilizes a maximum

[illegible]

EJAA/PE Charts

Cost share, located in
Guidelines section, pages II-
14 through II-18

Tax Credit, located in Tax
Credit section, pages IV-6
through IV-9

pipe diameter size of 1.5". The District staff person cannot design a system with a pipeline that exceeds 1.5" diameter.

An individual EJAA sheet will be issued for each District staff person who holds DCR EJAA. This sheet fully defines the various levels for EJAA as well as their limits. Please see the below DCR EJAA chart to determine which practice components require DCR EJAA and which components require design by a Professional Engineer. If a VACS practice is not listed in this chart, the practice does not contain components that require EJAA or a Professional Engineer and the practice can proceed to completion without the EJAA requirement.

All DCR EJAA and completed designs will be subject to annual reviews and engineering spot checks.

VACS Practice Components Requiring EJAA or PE Review and Approval

VACS Practice Code	VACS Practice Name	NRCS Practice Code	NRCS Practice Name	Professional Engineer (PE) or Engineering Job Approval Authority (EJAA) Required as indicated below
LE-2	Livestock Exclusion with Reduced Setback	533	Pumping Plant	EJAA
		561	Heavy Use Area Protection	EJAA
		574	Spring Development	EJAA
		575	Trails and Walkways	EJAA
		578	Stream Crossing	EJAA
		614	Watering Facility	EJAA
		516	Livestock Pipeline	EJAA
		642	Water Well	EJAA

- Lists NRCS components that require EJAA, and NRCS components that require a PE
- If not listed, neither EJAA nor PE required

Contract-Section 3

- Engineering Workgroup item on the TAC
- Change the language of the Technician Practice Installation Certification to eliminate EJAA
- Signatory must verify that all items have been approved by someone with the proper authority
 - This applies to forestry, nutrient management, conservation planning, engineering, etc.

All components of the practice!

Contract-Section 3

I certify that all administrative and technical components of any practice listed above for payment and/or tax credit have been completed by an appropriately qualified individual and it has been determined that each practice meets all applicable standards and specifications necessary for certification, payment and/or tax credit. All practices are subject to spot check procedures and any other quality control measures.

Hiring a Professional Engineer

- With the SL-6 backlog and resultant extra funding from DCR, hiring a PE is always an option
- Must use the same process as you would for a structure (i.e. Littershed)
- Developing the scope of services is crucial! Contact us (Engineering Services) for assistance

PE must be registered in the State of Virginia

Hiring a PE

- Before Construction (design phase):
 - PE must provide a complete plan set
 - This includes a cover sheet!
 - Must sign and seal each sheet in the plan
 - Must include the following on the cover sheet:

To the best of my professional knowledge, judgment and belief, the design, construction drawings and specifications meet applicable NRCS standards and specifications.

Registered Engineer, P.E.

Date

Hiring a PE

- Construction Phase
 - The producer is responsible for hiring the contractor and ensuring that the inspection plan is carried out and the practice(s) is completed according to the approved construction drawings and specifications.
 - The producer shall notify the District before construction is scheduled to begin.
 - Changes made during construction must be approved by the Professional Engineer who signed and sealed the plans and must be noted on the As Built drawings.

Hiring a PE

- After Construction:
 - PE must create as built documentation, including as built drawings
 - The producer must submit all applicable items listed under the Checkout Statement of Work from eFOTG to the District.
 - Must have the following on cover sheet:

To the best of my professional knowledge, judgment and belief, these practices are installed in accordance with the construction drawings (as shown on these “As Built” drawings) and specifications and meet NRCS standards.

Registered Engineer, P.E.

Date

EJAA Reviews

- For District staff who had current NRCS issued EJAA prior to October 31, 2013
- Starting with the highest workload districts
- Three designs, one field review
- Once review is complete, issued DCR EJAA if deemed satisfactory

Competency Reviews

- Being conducted at the same time as EJAA reviews, same process
- For new staff who do not have NRCS issued EJAA
- May be converted to EJAA once program fully staffed
- Voluntary

Engineering Training

- July 12, 2016
 - Culpeper VDOT
 - Advanced Culvert Design and Construction
 - Area I JED
- August 24, 2016-Graves Mountain
 - Spring Developments
 - Engineering Blitz

Engineering Training

- Wytheville/Abingdon
 - October
 - Pressure Watering System
- Prince George
 - September
 - Pressure Watering System
- Charlottesville
 - TBD
 - Ford Stream Crossings

Questions???

Will add this presentation to the District Engineering Services webpage found at:

<http://www.dcr.virginia.gov/soil-and-water/district-engineering-services>

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